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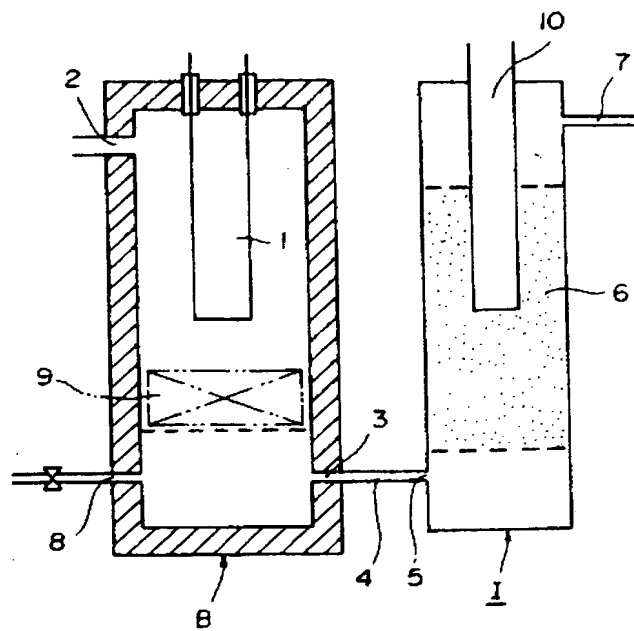
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TITLE : MANUFACTURE OF
TRICHLOROSILANE



ABSTRACT : PURPOSE: To manufacture SiHCl_3 in a high yield of starting materials by passing a mixed reactive gas through a metallic Si layer to convert contained harmful HCl into SiHCl_3 when SiHCl_3 is manufactured by using SiCl_4 and H_2 .

CONSTITUTION: SiCl_4 is mixed with H_2 in 4:1~1:10 molar ratio and introduced into the 1st reactor B, and by electrifying a graphite resistance 1, the interior of the reactor B is heated to 500~1,300°C to produce SiHCl_3 as well as to produce HCl as a by-product in the presence of catalyst 9. This mixed gas contg. the residual unreacted SiCl_4 and H_2 is introduced into the 2nd reactor I, and while cooling the gas to 200~700°C with a cooling pipe 10 and passing it through a fixed metallic Si bed 6, the HCl is converted into SiHCl_3 by a reaction with the metallic Si. The resulting mixed gas of H_2 , SiCl_4 and SiHCl_3 is taken out of the exhaust port 7, and the SiHCl_3 is separated and collected. Since HCl is not contained, an HCl separator is unnecessary, and HCl is converted into SiHCl_3 by a reaction with Si to increase the production of SiHCl_3 .

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